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cont.

whose dissociation constant (pK_a) in water at 298 °K is less than about 1.0, and the cation is ammonium ion or a metal ion which has an ionic radius of less than about 2/3 of the ionic radius of the pre-selected anion; quaternary ammonium salts or hydroxides; N-alkyl pyridinium salts or hydroxides; and organic bases exhibiting a pK_a in water at 298 °K of more than 10.0, and their salts, further comprising a dispersion in the wellbore fluid of finely divided particles of an electrically conducting solid insoluble in the organic liquid or water.

39. (Twice Amended) A wellbore fluid as in Claim 38 wherein the finely divided electrically conducting solid is selected from the group consisting of metals; carbon in the form of graphite or carbon fibre; metal coated carbon fibre or graphite; and conductive polymers.

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43. (Twice Amended) A method of providing enhanced information from electrical logging tools, measurement while drilling, logging while drilling, or geosteering wherein the efficiency is enhanced by the improved electrical conductivity of a water-in-oil type emulsion comprising a discontinuous aqueous or brine phase, solids and having a non-aqueous continuous liquid phase that comprises a polar organic liquid POL which exhibits a dielectric constant of at least about 5.0 and a Hildebrand Solubility Parameter of at least about $17 \text{ (J cm}^{-3})^{1/2}$ so that the liquid phase exhibits an electrical conductivity of not less than $10 \text{ }\mu\text{S m}^{-1}$ at 1 kHz.

C3

46. (Amended) A wellbore fluid as in Claim 31, wherein the alkane sulphonic acids are selected from the group consisting of sulphonic acid and ethane sulphonic acid; the arene sulphonic acids are selected from the group consisting of benzene sulphonic acid and naphthalene sulphonic acid; and the alkane and arene sulphonic acids substituted with electron-withdrawing groups are selected from the group consisting of trifluoromethane sulphonic acid and 2,4-dinitrobenzene sulphonic acid, picric acid, and trichloroacetic acid.

Please add the following new claims:

C4

55. (New) The method in claim 43 wherein the polar organic liquid POL is one or more selected from the group consisting of alcohols, phenols, glycols, polyalkylene glycols, mono alkyl or mono aryl ethers of glycols, mono alkyl or mono aryl ethers of polyalkylene glycols,

monoalkanoate esters of glycols, monoalkanoate esters of polyalkylene glycols, ketones possessing also hydroxyl group(s), diketones.

56. (New) The method in claim 43, wherein the polar organic liquid POL component is selected from the group consisting of:

- aliphatic and alicyclic alcohols of carbon numbers C₃-C₁₀;
- phenols;
- glycols;
- polyalkylene glycols;
- mono-alkyl or mono-aryl ethers of glycols or polyalkylene glycols;
- diacetone alcohol (4-hydroxy-4-methyl-1,2-pentanone); acetylacetone; acetonylacetone.

57. (New) The method in claim 43, wherein the polar organic liquid POL is an aprotic solvent.

58. (New) The method in claim 43 wherein the non-aqueous liquid phase further comprises a dissolved component (DC) of inorganic salt comprising anions which are the conjugate base of an acid selected from the group consisting of hydrochloric acid; hydrobromic acid; hydroiodic acid; thiocyanic acid; perchloric acid; nitric acid; permanganic acid; sulphuric acid; alkane sulphonc acids; arene sulphonc acids; alkylaryl sulphonc acid; alkane and arene sulphonc acids substituted with electron-withdrawing groups.

59. (New) The method in claim 43 further comprising an organic base wherein the organic base(s) exhibits a pK_a in water of more than 10.0 and is selected from the group consisting of mono-, di-, and tri-alkylamines wherein the alkyl groups contain from 2 to 18 carbon atoms; alkylpiperidines; alkylpyrrolidines; N-alkylated ethyleneamines; and their salts.

60. (New) A method of logging while drilling using a water-in-oil type emulsion with increased conductivity comprising a discontinuous aqueous or brine phase, solids, and having a non-aqueous continuous liquid phase that comprises a polar organic liquid POL which exhibits a dielectric constant of at least about 5.0 and a Hildebrand Solubility Parameter of at least about 17